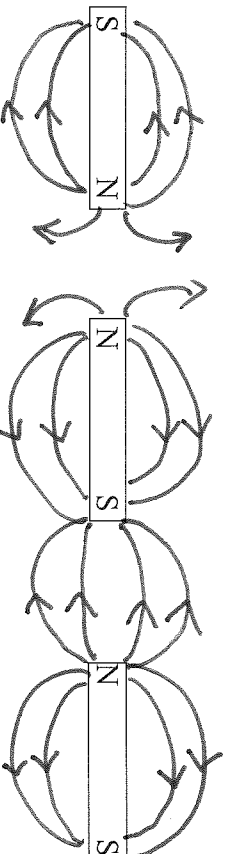


Due Tuesday, October 23rd, 2018 in class or by the end of lunch. ☺
You must show work to receive full marks!

1. Draw magnetic fields around and between the following magnets. (show their direction using an arrow) (2)



2. The average Canadian adult watches 28hrs of TV a week! Calculate the energy usage per year, in kWh, if the TV used has a power rating of 340 W. (2)

$$340 \text{ W} \div 1000 = 0.34 \text{ kW}$$

$$E = P \Delta t = 0.34 \times 28 \times 52 = 495.04 \text{ kWh}$$

(9.52 kWh is per week) (-1)

3. During a lab experiment, you build an electrical circuit. It has a power rating of 0.5 kW & and potential difference of 25 volts. What is the current intensity? (2)

- A) 0.02 A B) 50 A C) 12.5 A

D) 20 A $1 = \frac{P}{V} = \frac{500 \text{ W}}{25 \text{ V}} = 20 \text{ A}$

Answer #4

D

4. A stereo plays for 10 hours & 30 min & consumes 1 512 000 J of energy. What is the power rating? (2)

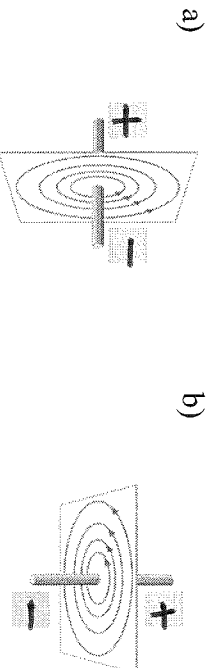
- A) 0.42 W B) 40.0 W C) 40.7 W D) 1 512 W

$$E = P \Delta t \quad P = \frac{E}{\Delta t} = \frac{1512000}{37800} = 40 \text{ W}$$

Answer #5

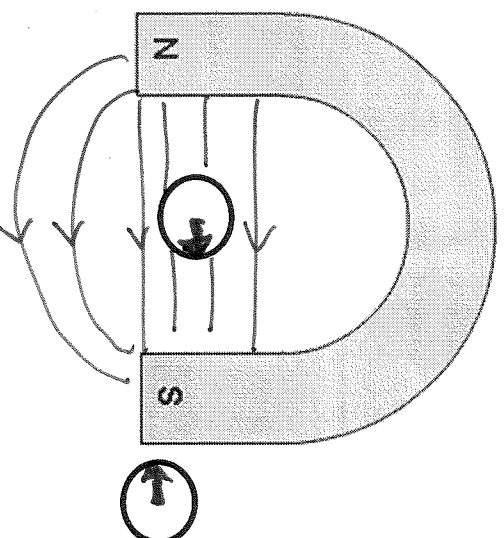
B

5. Indicate the “+” and “-“ ends of the wire by studying the magnetic field. (2)



6. For each of the following bar magnets, draw the needle on every compass. compass = (2)

a) b)



7. The school has 2 different types of drill presses in the technology workshop. Drill press A is used for 3 hours and Drill press B is used for 2 hours. Which drill press consumed more energy?

Some of their characteristics are given below. You must show your work! (2)

Drill Press A Model CV-22 700 W 115 V	3hrs
---	------

Drill Press B Model XT-56 10.0 A 120 V	2hrs
--	------

$$E = P \Delta t$$

$$P = UI = 10 \times 120 = 1200W$$

$$= 0.7 \times 3$$

$$E = P \Delta t$$

Drill press B

$$E = 2.10 \text{ kWh}$$

$$= 1.2 \times 2$$

consumed more

$$(7560000J)$$

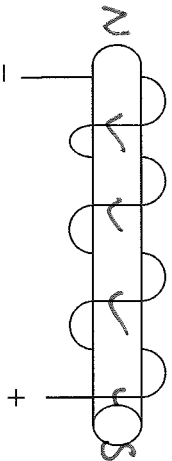
$$E = 2.40 \text{ kWh}$$

$$(8640000J)$$

energy

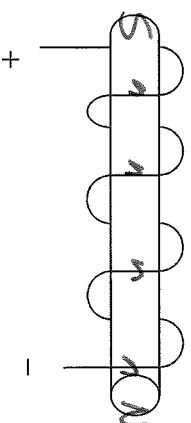
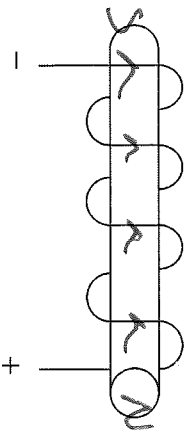
8. State whether the following will attract or repel. (Determine the north end of the solenoid first.) (2)

a.



Attract or Repel

b.



Attract or Repel

9. Determine the strength of the following resistors and indicate their range. Use the table in your notes or refer to p468 of your text. (You do not need to show your work) (2)

Band Colours	Resistance	Range
Violet - blue - black - gold	$76 \Omega \pm 5\%$	$(3.8) \quad 72.2 \Omega - 79.8 \Omega$
Yellow - red - red - silver	$4200 \Omega \pm 10\%$	$(420) \quad 3780 \Omega - 4620 \Omega$

10. Circle the strongest electromagnet. (2)

